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Special Issue: U.S. Air Force 25th Anniversary

WHERE IT BEGAN. Documents establishing the U.S. Air Force were signed in this aircraft, the "Sacred Cow," by President Harry S. Truman in 1947. The same C-54 was also President Franklin D. Roosevelt's aircraft.

COMMANDERS DIGEST
DEPARTMENT OF DEFENSE • WASHINGTON, D.C.

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U.S. AIR FORCE: Aerospace Power for Peace

'Born In An Airplane'

What Is The Air Force's Role?

It has been said that the U.S. Air Force was born in an airplane.

It was shortly after noon on July 26, 1947, at the National Airport in Washington, D.C. The President of the United States, Harry S. Truman, sat waiting in his personal plane, the "Sacred Cow." He was going to fly to the bedside of his dying mother. But first he wanted to sign some of the most important legislation in his administration. It was a bill that would set up a new defense organization for the Nation and bring into being an independent U.S. Air Force.

The bill, the National Security Act of 1947, was brought to him in the plane. He signed it. Then he signed the Executive Order defining the roles and missions of the Armed Forces. He also signed the nomination of James V. Forrestal as first Secretary of Defense.

Officially, of course, the U.S. Air Force didn't begin functioning until September, when its first Secretary, W. Stuart Symington, was sworn in on the 18th. A week later the President appointed General Carl Spaatz as the first Chief of Staff.

Yet actually, when viewed as an organization of people devoted exclusively to airpower, the Air Force was already 40 years old in 1947. By then, airpower had proved itself a major force in modern warfare. The grim logic that comes with the urgency of winning a war had raised the Air Force to its proper position among the American Armed Forces in World War II.

Since 1942 the Army Air Forces (AAF) had been treated almost as a separate service. It had become necessary to include an airman in all topside decisions on strategy. General H. H. "Hap" Arnold was appointed to the Joint Chiefs of Staff for Army, Navy, and Air, and to the combined chiefs of staff of the Allied Nations.

After the war, some of the staunchest supporters for a separate coequal air force were outstanding Army leaders. Generals of the Army Omar N. Bradley, George C. Marshall and Douglas MacArthur and Generals J. Lawton Collins and Alfred M. Gruenther were in basic

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AIR FORCE

(Continued from Page 1)

agreement with the then General of the Army Dwight D. Eisenhower that there should continue to be "three complementary forces, the Army, the Navy and the Air Force."

General Eisenhower commented on that issue at a Pentagon press conference in 1952. "If you will go back in your minds," he said, "you will know there was a man named Billy Mitchell who said we were never going to have decent airpower until we had a separate department of air, coequal with the others and ready to fight its own battles, and I came out of the war convinced that Billy Mitchell had been right in that part of his contentions. And I instantly started a campaign to disassociate air from its legally subordinate position to the ground forces, to make it a separate department."

Congress reflected the American people's new awareness of defense matters when it wrote the National Security Act of 1947. What Congress wrote and what President Truman signed at National Airport 25 years ago was the air-age concept of our country's defense. Few laws could be more important for every member of the Armed Forces to understand. In fact, few laws could be more important for every American citizen to understand.

Wrapped up in this law and its interpretations is the overall budget for defense. The way this law is interpreted decides in a big way just how strong our country is militarily, how long we actually can prevent war, or whether we could win one that might be forced upon us. It also decides in a big way just how strong our country is economically.

Whether all these billions of dollars are used wisely or partly wasted depends very much on how well the policies of this law are understood and how strictly they are followed.

Some of the issues include: the international competition among nations . . . the expanding armed forces of already powerful countries . . . our overseas commitments . . . how much our country can spend for nondefense requirements . . . roles and missions of the Armed Services—talk about our ability to cope with any of these problems and, eventually, you'll have to touch on the intent of this law—why the Department of Defense is organized the way it is.

AIRPOWER PROPHET. Brig. Gen. William "Billy" Mitchell in front of a Curtiss PW-8

Here, in the National Security Act of 1947, with its amendments, and the orders, agreements, and directives based on it, is the overall Air Force job description, as well as that of the other Services.

Why should there be a separate Air Force? What exactly is the Air Force job? Has it changed in the past 25 years? Have missiles and nuclear developments changed its mission?

Very simply, the new act made the Air Force responsible for conduct of "offensive and defensive air operations" for the Nation. That overall assignment takes in a tremendous number of operations and and a limitless area around our globe and above it—far into space.

As stated in the Executive Order signed at the same time, the Air Force is "organized, trained, and equipped primarily for prompt and sustained air offensive and defensive operations." The Army, said the order, is "organized, trained, and equipped primarily for prompt and sustained combat incident to operations on land." The Navy is "organized, trained, and equipped primarily for prompt and sustained combat at sea."

This is the basic duty assignment of each of our major forces, air, land, and sea. Congress intended that each service specialize in either air warfare, land warfare, or sea warfare. But it wanted them to work "as an efficient team under unified control." The whole purpose was to establish a more *effective* and *economical* defense organization for the United States.

In a memo to all the Services, the first Secretary of Defense stated that the principles of the new act demanded "prevention of unnecessary duplication or overlapping among the services" and coordination of service operations "to promote efficiency and economy and to prevent gaps in responsibility."

The Air Force job description in the Executive Order covered practically the same duties the AAF had been responsible for all along under the War Department. The Air Force was already the Government's primary agency for "gaining and maintaining general air supremacy." It was, in truth, the world's most powerful air arm. As such, it was the Nation's primary agency for "establishing local air superiority," for conducting "air defensive operations," and for operating "the strategic air force of the United States and strategic air reconnaissance."

The President's order merely listed these capabilities of the national air arm, plus a few more, such as providing airlift and air support to surface forces, and

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COMMANDERS DIGEST

A publication of the Department of Defense intended to provide official information to commanders and key personnel on matters related to Defense policies and interests, and to create better understanding and teamwork within the Department of Defense.

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Secretary Seamans Explains

The U.S. Air Force and Space

In a message sent recently to all Air Force commanders, Secretary of the Air Force Robert C. Seamans, Jr., explained the Air Force's space role. His statement:

"It has been almost 15 years since the United States launched its first satellite into space. Since the beginning of the space era, the Air Force has taken the lead in developing space systems to improve our national security. The Air Force has responsibility for the development and launch of military space boosters for the Department of Defense and is the principal defense agency for space development programs and projects. This role as DoD's primary space agency includes the tasks of supporting the Army, Navy and Atomic Energy Commission space requirements. It also includes working with NASA on Project Apollo and launching NASA satellites as required. The Air Force has launched about two-thirds of the over 700 payloads our Country has placed in Earth, Sun or lunar orbit since 1958.

"We have space-based systems for early warning, communications, charting and geodesy, some in collaboration with NASA. These systems do not pose a threat to the security of other nations. They are used to provide information that enhances our deterrent capability, not to carry weapons that might be used offensively.

"In the field of early warning satellites, the Air Force is developing DoD space systems for the purpose of detecting ICBM and SLBM launches and to report atmospheric nuclear explosions. This broadened capability is particularly significant in view of the growing SLBM threat to our strategic forces.

SPACE WALK. Air Force Maj. Edward H. White II, first astronaut to walk in space.

"In an effort closely related to the early warning mission, we are continuing our development of satellites for the Defense Communications System. The initial space system has been operational for several years. In November of 1971, we deployed the first two satellites of a follow-on system. Although both of those satellites initially malfunctioned, we have been successful in achieving limited operational use of one satellite and we have turned it over to the Defense Communications Agency, which is the operational user.

"In another area, we are considering the development of a Navigation Satellite System. We have completed studies which indicate that such a system could allow our forces to accurately and quickly determine their location, speed and direction anywhere in the world. This system could also have potential for civil users.

"The space medium offers the potential for a variety of applications in these and other areas; however, costs and lack of operational flexibility could be limiting factors for future space operations. For example, booster costs for an Air Force Titan III launch vehicle run approximately $20 million and payload costs run between $2,000 and $7,000 per pound for unit production, not including research and development costs.

"For several years, the Air Force and NASA have been studying ways to reduce the cost of space operations. We have concluded that the most promising way to realize significant cost savings is through the use of reusable launch vehicles. Savings could also be realized from being able to recover satellites or conduct in-orbit maintenance on systems that malfunction. Thus, we are very interested in the space shuttle concept being developed by NASA. We are working closely with NASA to assure that the shuttle design will satisfy Air Force and DoD needs. Also, plans call for Vandenberg AFB, California, to be an operational site for shuttle launches during the late 1970s.

"In addition to our cooperation with NASA on the space shuttle, the Air Force has other active programs to develop space technology required for the future. Advancements are being made in space technology required for the future. Advancements are being made in space guidance, communications, power supplies and propulsion. This technology, we believe, will permit us to reduce technical uncertainties associated with future space system development and enable us to have the necessary building blocks in hand when the decision is made to go ahead with new programs.

"In looking to the future, we must continuously assess our military requirements against available technology and fiscal considerations. Consistent with our Nation's peaceful objectives and our commitments with respect to activities in space, we must make appropriate use of space systems where they can best help us accomplish our military tasks."

U.S. AIR FORCE: Aerospace Power for Peace

The Air Force Chief of Staff Says:

'Deterrence Must Continue'

BY GENERAL JOHN D. RYAN
Chief of Staff
U.S. Air Force

The deterrence of strategic nuclear war remains the highest defense priority for the United States. While the SAL agreements will affect our strategic forces, they will not eliminate the need to deter war. Deterrence must continue, especially in a crisis, regardless of uncertainties which exist or may arise.

For example, we cannot be sure of:

- The intentions of potentially hostile nations and their future capabilities;
- The way a war could begin; or
- The tasks we may be asked to perform.

Because of these and other uncertainties, the United States must continue to rely on a mixed force of manned bombers, and land and sea-launched missiles —known as the strategic Triad.

The diversity of the Triad is an extremely effective hedge which gives us nearly complete assurance against uncertainties. Its strength depends on strong legs. For the Air Force, this means improving and modernizing our ICBM and bomber forces.

To improve these forces, the Air Force is reducing vulnerability to surprise attack, assuring penetration of defenses, and providing reliable command and control. Air Force developments which should increase our advance knowledge of an attack include: Over-The-Horizon (OTH) radar, Airborne Warning and Control (AWACS), and Satellite Early Warning. The OTH radar will be able to detect approaching bombers well away from the United States. Surveillance gaps could be covered with AWACS.

In addition, the AWACS will give us a system for early warning and battle management which will survive a nuclear attack. Finally, the Satellite Early Warning System, which is capable of detecting missile launches in their boost phase, diminishes the threat to U.S. forces posed by submarine launched ballistic missiles.

The growth of Soviet capabilities and the developing Chinese nuclear capability have presented our strategic forces with an increasingly complex challenge to deter. Nevertheless, the probability of challenges below the level of full-scale nuclear or conventional war appear more likely. Our strategy for peace here, too, is deterrence. General purpose forces are designed to deter conflict at lesser levels by making the cost of war to an aggressor greater than his possible gains.

Within the total General Purpose Force structure, our overall tactical aviation posture is reasonably sound. We have a credible force capable of reacting anywhere in the world. For example, we have recently deployed an entire fighter wing from the United States to Southeast Asia. Total elapsed time from "go" to the first combat sortie was 86½ hours.

To increase our flexibility, we now have the air-transportable bare base equipment. With this equipment and a runway, parking area and water supply, we can sustain combat operations anywhere.

A key element of flexibility is mobility. With the global airlift capability of our C-141s and C-5s, we are able to fly U.S. forces to any part of the world quickly, and with all the out-sized equipment necessary to support them in combat. Once in theater, strategic airlift feeds into the tactical airlift force. Our tactical airlift forces have successfully demonstrated the ability to deliver supplies as far forward as necessary in the combat zone.

Today, as we approach our silver an-

(See DETERRENCE, Page 13)

U.S. AIR FORCE: Aerospace Power for Peace

Churchill on Airpower

Peacekeeping in the 1950s

The United States and the free world in general were relatively secure from war during the first few years after World War II. Our strategic airpower and nuclear weapons helped us to discourage large-scale aggression.

Addressing the British House of Commons on March 1, 1955, Prime Minister Winston Churchill spoke of the relative safety from attack that the free world would enjoy "for the next three or four years" until the Soviets developed hydrogen weapons and the means to deliver them between continents.

He said: ". . . The only country which is able to deliver today a full-scale nuclear attack with hydrogen bombs at a few hours' notice is the United States. That surely is an important fact, and from some points of view and to some of us it is not entirely without comfort. . . .

"I will not attempt to go into details, but it is known that bases have been and are being established in as many parts of the world as possible and that over all rests the United States Strategic Air Force, which is in itself a deterrent of the highest order and is in ceaseless readiness. The Soviet Government probably knows in general terms of the policy that is being pursued, and of the present United States strength and our own growing addition to it.

"Thus, they should be convinced that a surprise attack could not exclude immediate retaliation. . . ."

Views of TAC Commander

Airpower—Getting It Together

One of the bases for establishment of a separate Air Force was the concept of centralized control of forces.

Earlier this year in hearings before the Special Subcommittee on Close Air Support of the Preparedness Investigating Subcommittee of the Senate Committee on Armed Services, General William W. Momyer, Commander of Tactical Air Command, recalled some of the historical background. He said:

* * *

To carry out our responsibilities, the Air Force employs a centralized control system which provides the capability to shift the weight of effort on a moment's notice, in response to changed requirements in the ground situation. We have not always had such a flexible organization.

During the early days of the campaign in North Africa [World War II], U.S. fighter and tactical bomber groups were attached to a particular ground unit, dedicated to support only those units. Our ground and air forces took a beating as the Germans hit first one sector and then another. There was no central air authority or system to concentrate the available air resources against the enemy where and when needed.

Following the Casablanca conference in 1943, General Eisenhower, the Allied Theater Commander, reorganized the forces in the North African Theater of operations. Acting on the advice of his U.S. and British commanders, he ordered that the tactical air forces be organized into air commands coequal with the ground forces; the air commander was responsible to the theater commander and had the authority to concentrate his air forces where and when required by the tactical situation and the theater commander's mission. This historic decision established the organization which was highly successful in executing air-ground operations throughout the remainder of World War II.

In a dispatch on the North African operations, General Eisenhower stated that this organization solved one of the basic problems of modern warfare: ". . . how to apply airpower most effectively to the support of land operations." He further stated: ". . . the greatest advantage of our new organization was its flexibility. Aircraft from the different combat formations were fused in a single mission as the need arose. . . ."

This flexible application of tactical airpower was tested and proven in battle time after time—at the Mareth Line in North Africa, the beachheads at Anzio and Normandy, the breakout at St. Lo and Caen, and Patton's magnificent armored thrust to the Rhine in which tactical airpower secured his right flank, freeing more ground forces to sustain the attack.

MIG KILLER. F-4E, versatile MIG killer and fighter-bomber. Tactical air forces have been essential in Southeast Asia, as they were in Korea and World War II.

The basic air-ground operations system developed in World War II for accomplishing the tactical air missions in joint operations, including close air support, has remained valid ever since, as proven in subsequent and different type wars.

Korea saw further developments in our equipment and refinements in tactics and procedures. The system for providing air advisers to ground commanders was further developed, and Air Force officers were provided to control the air strikes from the ground or air.

Most air strikes were controlled from the air, adopting and expanding a tactic originally developed in World War II; thus, the airborne forward air controller, or airborne FAC, became an important element of tactical airpower, enhancing the locating of targets and enabling us to engage the enemy at greater distances from friendly ground units.

It was close air support which held the Pusan perimeter and then helped our ground forces to break out and take the initiative. When 21 Chinese divisions attacked the U.S. 10th Corps in an effort to outflank Seoul, some 2,300 air strikes in 25 days inflicted almost 17,000 casualties on the enemy. On one day alone, the U.S. 2d Division reported at least 5,000 enemy casualties attributed to close air support aircraft.

In South Vietnam, we have seen the performance of the close air support mission reach its highest point yet in responsiveness to the needs of the man on the ground. The tremendous flexibility in our close air support system has permitted the rapid shifting of our strike forces from area to area as contacts with the enemy developed. . . .

Thus, close air support can be sustained and massive or brief and highly selective—whatever is required by the ground forces at that time and place. In my judgment, this is the real measure of responsiveness: the ability to meet the enemy situation with the decisive amount of firepower when and where required. . . .

. . . In South Vietnam, a division commander, with a low level of activity, might start a day with only a dozen preplanned sorties, but, after contacting the enemy, may end up with 100 sorties in an hour or so. The Marine regiment at Khe Sanh received over 400 sorties per day.

As can be seen from these historical examples, a key to effective close air support is flexibility; and a key to flexibility is centralized control, the capability to concentrate whatever force is required to neutralize or destroy the enemy threat whenever and wherever the threat endangers the ground forces.

U.S. AIR FORCE: Aerospace Power for Peace

President Nixon's Remarks

The Success of Air Strikes In Vietnam

In a news conference at the White House on June 29, President Nixon was asked if he felt that the South Vietnamese could "do it alone without massive firepower from us." He replied: . . . "I think that is being determined and also demonstrated at this time. First, as far as the ground activities are concerned, they are being entirely undertaken by the South Vietnamese. American ground combat action has totally been finished in Vietnam. As far as Americans in Vietnam are concerned, this war is over in the future for any future draftees. No more draftees will be sent to Vietnam.

"As far as air action is concerned, as General Abrams or any military man will tell you, as they have told me, air action alone, without adequate fighting on the ground, cannot stop a determined enemy.

"What happened in this case was that the North Vietnamese launched a massive offensive with huge tanks, bigger than those against which they were arrayed, with new and modern weapons. In order to provide an equalizer, and it was needed, we provided air support.

"But I should also point this out, something that has been little noticed, 40 percent of all the tactical air sorties being flown over the battlefields of South Vietnam are now being flown, not by Americans, but by South Vietnamese. So we see the South Vietnamese not only doing all the ground fighting, but increasing their ability to do the fighting in the air.

"Finally, the success of our air strikes on the North and on the battlefield, the success in turning this battle around, hastens the day when the South Vietnamese will be able to undertake the total activity themselves.

"I am not going to put a date on it. I can only say the outcome of the present battle, how badly the North Vietnamese are hurt, will determine it—but I am very optimistic on this point."

U.S. AIR FORCE: Aerospace Power for Peace

Began in 1907

How Today's Air Arm Got Started

As an organization, the Air Force began within the Army on August 1, 1907, as the Aeronautical Division in the Office of the Chief Signal Officer, and grew under various names to become a separate department and Service, coequal with the Army and Navy, on September 18, 1947.

Significant dates in the growth of the Air Force are:

- August 1, 1907—An Aeronautical Division (one officer and two enlisted men) was established in the Office of the Chief Signal Officer, U.S. Army;
- July 18, 1914—It became the Aviation Section of the U.S. Army Signal Corps, with an authorization of 60 officers and students, and 260 enlisted men;
- May 20, 1918—Military aviation was removed from Signal Corps and placed in the Bureau of Aircraft Production and the Division of Military Aeronautics, which together constituted the Air Service;
- June 4, 1920—Air Service was formally created as a combatant arm of U.S. Army;
- July 2, 1926—Formation of the Army Air Corps was authorized;
- March 1, 1935 — The General Headquarters (GHQ) Air Force was established at Langley Field, Virginia, to provide centralized command of a combat air force utilizing longer range and heavier bombardment aircraft;
- June 20, 1941—The Army Air Forces was created to coordinate the activities of the Air Force Combat Command (formerly GHQ Air Force) and the Office of the Chief of the Air Corps. General H. H. Arnold was named Commanding General, Army Air Force;
- July 26, 1947—President Harry S. Truman signed the National Security Act of 1947, establishing a new defense organization, including a separate Department of the Air Force—and, within that department, the U.S. Air Force, "organized, trained, and equipped primarily for prompt and sustained air offensive and defensive operations"; and
- September 18, 1947—The Air Force began functioning as the Nation's specialist in airpower, when W. Stuart Symington was sworn in as its first Secretary.

How Successful Was It?

U.S. Aerial Bombing In World War II

FLAK WALKING. B-17 Flying Fortress in flak over Germany in 1944. President Roosevelt's Strategic Bomb Survey described airpower in World War II as "decisive."

Before World War II ended, it was decided to survey the results of our aerial bombing efforts in Europe. The U.S. Strategic Bombing Survey was established by Secretary of War Henry L. Stimson on November 3, 1944, as directed by President Franklin D. Roosevelt.

The survey was established "for the purpose of conducting an impartial and expert study of the effects of our aerial attack on Germany, to be used in connection with air attacks on Japan and to establish a basis for evaluation of airpower as an instrument of military strategy, for planning the future development of the U.S. Armed Forces, and for determining future economic policies with respect to the national defense."

A summary report and some 200 supporting reports containing the findings of the Survey in Germany were published.

On August 15, 1945, President Truman requested the Survey to conduct a similar study of the effects of all types of air attack in the war against Japan.

The Pacific Survey's personnel complement consisted of 300 civilians, 350 officers and 500 enlisted men. Sixty percent of the military segment of the organization for the study was drawn from the Army, and 40 percent from the Navy. Both the Army and the Navy gave the Survey assistance in the form of men, supplies, transport and information.

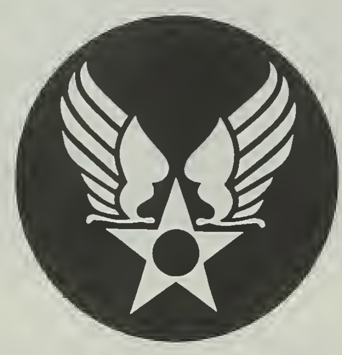
Their findings, in essence, were these: "The experience of the Pacific war supports the findings of the Survey in Europe that heavy, sustained and accurate attack against carefully selected targets is required to produce decisive results when attacking an enemy's sustaining resources. It further supports the findings in Germany that no nation can long survive the free exploitation of air weapons over its homeland. For the future it is important fully to grasp the fact that enemy planes enjoying control of the sky over one's head can be as disastrous to one's country as its occupation by physical invasion."

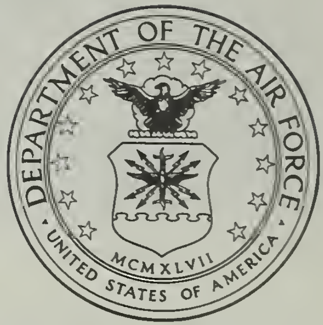
Briefly stated, the Survey's findings in Europe had been:

"Allied airpower was decisive in the war in western Europe. Hindsight inevitably suggests that it might have been employed differently or better in some respects. Nevertheless, it was decisive. In the air, its victory was complete; at sea, its contribution, combined with naval power, brought an end to the enemy's greatest naval threat—the U-boat; on land, it helped turn the tide overwhelmingly in favor of Allied ground forces. Its power and superiority made possible the success of the invasion. It brought the economy which sustained the enemy's armed forces to virtual collapse, although the full effects of this collapse had not reached the enemy's front lines when they were overrun by Allied forces. It brought home to the German people the full impact of modern war with all its horror and suffering. Its imprint on the German nation will be lasting."

NEW FIGHTER. Artist's concept of an F-15 air superiority fighter, designed to help gain and maintain control of the sky in battle areas.

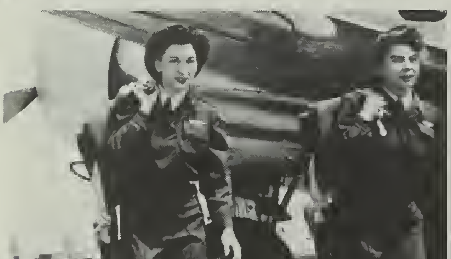
U.S. Air Force Gallery of Photos





FAMOUS SYMBOL. The AAF shoulder patch, which continued to appear on flight clothing long after World War II, became a symbol known in many parts of the world.

THE OFFICIAL SEAL of today's Department of the Air Force.



WASPS. More than 1,000 WASPs (Women Air Service Pilots) ferried aircraft, towed targets and taught flying during World War II.

MOCK-UP of B-1 bomber. The B-1 will carry twice the bomb load of the aging B-52 bomber and fly at more than twice the speed of sound at high altitudes and high subsonic speeds at very low altitudes, making it very difficult to defend against.

EARLY WARNING. Airborne Warning and Control System (AWACS) is being developed (above photo) to provide early attack warning and command and control for U.S. tactical and air defense forces.

PEACEMAKER. Reconnaissance version (left) of the B-36 strategic bomber, the "Peacemaker," which played a role in deterring nuclear war from 1948 to 1958.

WORLD'S LARGEST. The world's largest aircraft, the C-5, can carry heavy, outsized combat equipment. Teaming the C-5 with the C-141 for troop/cargo transport, the Military Airlift Command can move large forces globally at jet speeds.

INSTANT REACTION. Minuteman II, land-based ICBM. A key part of the Triad mixed force. Advanced models, such as Minuteman II and III, provide instant reaction and improved ability to penetrate to the target.

MEDIUM BOMBER. The B-47 was introduced in the SAC inventory beginning in 1951. More than 1,200 were built.

INTERCEPTOR. F-106 interceptor of the Aerospace Defense Command, which provides the North American Air Defense Command with the majority of its resources to protect the Nation's skies.

U.S. AIR FORCE: Aerospace Power for Peace

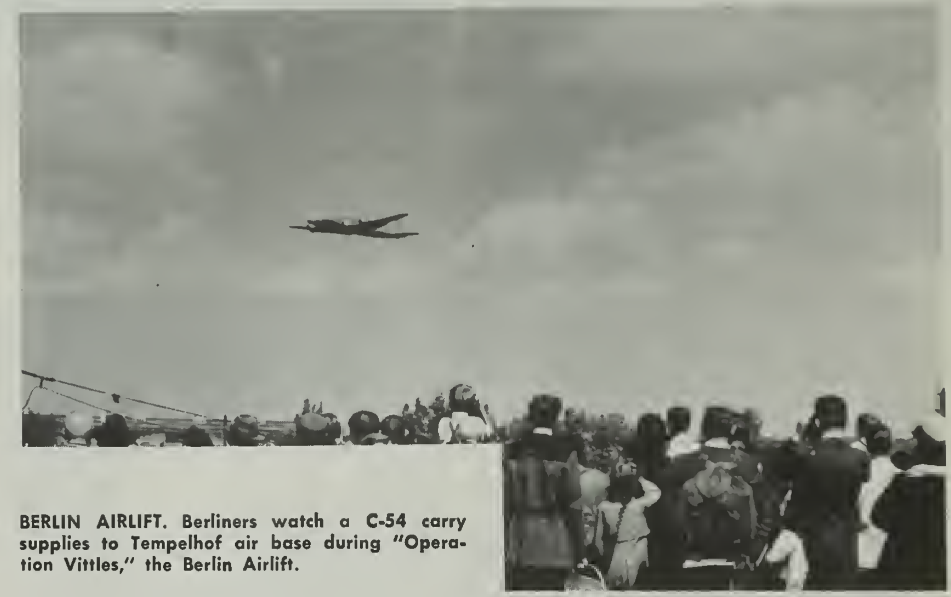
Daily Needs of 2 Million People

West Berlin: A City Saved By Airlift

A large city was supported entirely by air in 1948. When the Soviets cut off all surface transportation to the free sectors of Berlin on June 22, 1948, the Western Powers began airlifting the daily needs for 2,000,000 Germans. The U.S. Air Force, Navy and Army, as well as British and French military forces, worked to load, unload and fly the supplies.

The combined Airlift Task Force delivered more than 2 million tons of supplies to Berlin and carried more than 70,000 tons of cargo out of the city. In more than 500,000 hours of flying, 36 American aircraft and 31 American lives were lost—a safety record comparing favorably with normal Air Force operations in the United States at that time.

The Air Force C-54 was a mainstay. It is interesting to consider today, when we have the gigantic C-5 aircraft, what it could have done in the Berlin airlift. It produces the lift equivalent of about 26 C-54s. A squadron or less of C-5s could have routinely done the work of the five Air Force and Navy wings and numerous groups and squadrons employed by great numbers of military men during the Berlin Airlift in 1948 and 1949.



BERLIN AIRLIFT. Berliners watch a C-54 carry supplies to Tempelhof air base during "Operation Vittles," the Berlin Airlift.

On September 30, 1949, the airlift came to an end. The Soviets had agreed to permit the road transport and railways in and out of Berlin to be used again.

This was the United States' first major peacetime use of airpower as an instrument of national policy.

U.S. AIR FORCE: Aerospace Power for Peace

Ten-To-One Victory Margin

Airpower In The Korean War

The achievements of airpower in Korea are not widely known.

One fact alone is astonishing: more than 145,000 enemy soldiers were killed on the ground by our airpower and only three members of American ground forces were known killed by enemy air attack.

Other facts are equally noteworthy: Far East Air Forces (FEAF) flew a total of 720,980 sorties, which included 66,997 counter-air, 192,581 interdiction, 57,665 close support, 181,659 cargo, and 222,078 miscellaneous sorties (which included reconnaissance, air control and rescue). . . .

Between June 26, 1950 and July 31, 1953 MATS (now MAC) transported 43,196 Korean War casualties to the United States for further hospitalization. . . .

Better known is the ten-to-one margin of victory of our F-86 Sabre pilots over the MIG-15 jet fighters. . . .

During the fighting in South Korea,

North Korean prisoners of war estimated that air action destroyed more than 70 percent of their tanks, trucks, and artillery pieces and inflicted 47 percent of the casualties which North Korean troops sustained. . . .

When U.N. ground troops retreated from North Korea, FEAF airmen not only delayed the southward movement of the Chinese Fourth Field Army and gave the Eighth Army time to prepare defenses, but they also estimated that they inflicted nearly 40,000 casualties on the Chinese—thus decimating a force equivalent to five Chinese divisions.

In 1952, General of the Army Omar N. Bradley, Chairman of the Joint Chiefs of Staff, said in a memo to the Secretary of Defense that the airpower of the United Nations Command "constitutes the most potent means, at present available to the United Nations Command, of maintaining the degree of military pressure which might impel the Communists to agree, finally, to acceptable armistice terms."

All these statistics can have true value only if related to the events as recorded in reliable histories. An excellent history is available in most libraries in the Armed Forces—**The U.S. Air Force in Korea, 1950-1953;** Robert F. Futrell; Duell, Sloan and Pearce; 774 pages. It makes interesting reading and is profitable to those interested in the impact and potential of airpower.

B-29 SUPERFORT, World War II bombers were also used in Korea, where they engaged in interdiction of enemy supply movements, in bombing strategic targets in North Korea and in close support of Eighth Army troops.

U.S. AIR FORCE: Aerospace Power for Peace

Marines and Airmen In Concert

Airpower at Khe Sanh – An Allied Victory

Airpower has been credited with making possible the determined stand of a force of less than 6,000 U.S. Marines and South Vietnamese rangers besieged at Khe Sanh by at least 20,000 North Vietnamese regulars. The enemy troops had undergone systematic destruction from the air for 73 days when most of their remnants withdrew from Khe Sanh at the end of March 1968.

A week later, on April 7, a joint force of 1st Air Cavalry troops, Marines and South Vietnamese soldiers, assisted by tactical air forces, moved, against little resistance, from the Khe Sui Soi river valley along Route 9 into the Khe Sanh area.

Baltimore Sun correspondent John S. Carroll, traveling with the Operation Pegasus forces that relieved the Khe Sanh outpost, wrote that near Khe Sanh "begins the wasteland where North Vietnamese soldiers took what is probably the most severe bombardment of any war. . . . The battlefield is laced with caved-in trenches and bunkers. . . . Strewn among the carnage are tons of boots, gas masks, medical equipment, ammunition, TNT and unexploded ordnance."

General William C. Westmoreland, then MACV Commander, said: "I wish to express my pride and satisfaction to all those—Vietnamese and Americans—who manned the Khe Sanh base during the two and one-half months of siege, who kept the base supplied, who brought the decisive airpower to bear on the forces and installations of the enemy with determination and skill, and who have now relieved the base and gained the initative.

"You should know that this operation pinned down more than two divisions of North Vietnamese Army troops at a crucial phase of their winter-spring offensive. These enemy forces would otherwise have been available to join the attacks on the cities and populated areas of South Vietnam and their intervention

(See VIETNAM, Page 12)

GLOBAL BOMBER. B-52 Stratofortresses, an essential part of the three-part Triad, helps deter general war by its global capabilities. In addition it plays a key role in the fighting in Southeast Asia.

VIETNAM

(Continued from page 11)

could have possibly altered the course of battle."

At a State Department-sponsored national foreign policy conference conducted on April 15 in Washington for editors and broadcasters, an official briefer was quoted by the press as saying that "when the archives are finally studied and the history finally written, Khe Sanh will be the first major ground action won entirely, or almost entirely, by airpower."

He also said that "the abortive attempt at Khe Sanh might well represent the highwater mark on the military side, from the North Vietnamese standpoint." The enemy, he said, was "losing companies and battalions while we were losing in the tens." [Khe Sanh cost the United States and Allies 199 killed and 845 wounded and requiring evacuation.]

The briefer said that enemy forces were forced to pull away from Khe Sanh because they were taking prohibitive losses. Casualties were estimated, he said, at all the way from six to twenty thousand. He said the North Vietnamese 325 C Division, when it pulled out, was badly decimated. The 304th still had one regiment in the area and prisoners from that unit had made similar reports. One regiment lost 75 percent of its men to a B-52 strike, according to the testimony of a prisoner. The pullout started in the beginning of March when the 320th Division abandoned its part of the mission, which was to attack Camp Carroll, where the long-range artillery was located. In the middle of March the 325 C Division abandoned its part of the mission, followed by the 304th.

The special air campaign in support of Khe Sanh began on January 19 when the air operations there of Air Force, Marine Corps and Navy were placed under overall control of Gen. William W. Momyer, Deputy for Air to the MACV Commander and Commander of Seventh Air Force.

(General Momyer did not actually control Marine aviation until after his appointment as single manager on March 8. Prior to that time, he was basically a coordinator, a role that he played throughout the operation with respect to naval aviation. Neither he nor his staff controlled Marine artillery. The Marine fire support coordination center at Khe Sanh and the Airborne Battlefield Command and Control Center (ABCCC) did coordinate air strikes and artillery fire to prevent mid-air collisions between planes and shells.)

Using a special command post at Tan Son Nhut airport and airborne battlefield command and control centers in C-130s flying shifts near Khe Sanh around the clock, the Air Force general and his staff controlled more than 28,600 sorties of fighter and bomber strikes, reconnaissance flights, airlift sorties and aeromedical evacuation—and coordinated outgoing artillery fire (104,741 shells) at Khe Sanh. The enormity and complexity of that 24-hour-a-day air campaign was evident from the statistics.

United States strike and bomber aircraft flew some 24,449 sorties and dropped an estimated 95,430 tons of ordnance during the 73-day air campaign, using 500-, 750-, 1,000- and 2,000-pound bombs. (They dropped another 8,000 tons during the first week of April.) Air Force pilots expended some three-quarters of a million rounds of ammunition and dropped 73,765 tons of the 95,430 total bomb tonnage. Of that, 59,542 tons of bombs were dropped from B-52s. Navy aircrews dropped 7,941 tons of bombs and Marine Corps pilots dropped 13,724 tons.

While enemy fortifications, ammunition, gun positions, trucks, tanks, food and troops were being destroyed from the air, Air Force C-130, C-123 and C-7A aircraft were delivering more than 12,000 tons of food, water, ammunition, supplies and equipment to the men at Khe Sanh and moving some 4,000 troops and other passengers on and off the 3,900-foot airstrip. (The daily average of 300,000 pounds of cargo would have required a daily 60-truck convoy if moved on the ground.)

On the ground at Khe Sanh were Air Force aerial port cargo handlers who loaded and unloaded the planes—often under heavy fire—plus Air Force combat controllers, mission commanders and maintenance personnel. Much of the cargo was airdropped.

Col. David E. Lownds, Commander of the 26th Marine Regiment and the Khe Sanh Combat Base for eight months, said on his last day of command there that "the Air Force was simply outstanding in their support: not only the B-52 strikes, the observation aircraft and the strike and transport planes, but the ground control teams as well, were just really outstanding."

The full story of the Air Force Forward Air Controllers (1,598 sorties) and the Air Force reconnaissance flights (1,398 sorties) has yet to be told. The accurate detection, location and pinpoint targeting of enemy movements and positions for U.S. artillery and aircraft was developed into a remarkably effective system. In addition, the Air Force all-weather bombing system, Combat Skyspot, permitted use of ground radar to direct pilots to the target and give them the exact release point.

Without airpower the siege of Khe Sanh would have ended differently. But because of the much-needed victory it denied to the enemy and the favorable news it brought to the Allies, the defeat of the North Vietnamese at Khe Sanh was a major milestone in the Vietnam War. History may show it to have been a significant turning point.

What Is A Squadron? A Wing?

In the Aerospace Defense Command, the number of fighter interceptors (F-106) averages 16 per squadron. Interceptor squadrons are not normally organized into wings.

Composition of tactical fighter wings varies. The tactical fighter wings in the overseas commands normally consist of three squadrons with 24 aircraft per squadron. Exceptions are made when the local situation requires. Fighter wings of the Tactical Air Command based in the U.S. are currently being reorganized to include three squadrons per wing with 24 aircraft each.

Airlift squadrons of the Military Airlift Command usually have 18 aircraft, and the wings have from two to four squadrons assigned. Tactical airlift squadrons assigned to the Tactical Air Command normally contain 16 aircraft and the wings usually consist of three squadrons.

Strategic Air Command bomber wings are usually formed of one or two squadrons with 15 aircraft in each squadron. SAC Minuteman missile wings usually consist of three or four missile squadrons; Titan II wings consist of two squadrons. A Minuteman squadron has 50 missiles in hardened underground silos. A Titan II squadron has nine missiles in hardened underground silos.

DETERRENCE

(Continued from page 4)

niversary, we have the most experienced and dedicated force of men and women, active and reserve, of any combat force ever developed. Their dedication and effort have contributed every bit as much to our posture for deterrence as has hardware on alert pads or in missile silos. In the final analysis, the contribution of this most critical element of our total force will determine our future success in assuring a generation of peace.

In sum, we are striving to deter war at all levels. Our strategic Triad is intended to deter nuclear and general war. Our General Purpose Forces, structured in concert with those of our allies and friends, are to deter lesser conflicts. For the future, we will continue to restructure and modernize our forces as necessary to provide our national leaders relevant power to protect our national interest.

Airpower Strength—Then and Now

At the end of World War II—in August 1945—the Air Force had 63,715 aircraft. But the demobilization that affected all the Armed Forces hit the Air Force hard, too.

The previous year, in July 1944, the Air Force had had its greatest number of aircraft—79,908. But, by August 1946, there were only 32,277.

The Air Force was reduced from 218 combat groups on V-J Day [August 14, 1945, when Japan accepted Allied peace terms] to 2 groups in December 1946. Although the Army Air Forces had 52 combat groups in-being in December 1946, fully 50 of these were ineffective. [The term "group," used during World War II, referred to any one of the usual four major subdivisions of a standard wing. Late, the term became a misnomer for "wing."]

To provide the necessary strength for its mission, the AAF projected in 1946 a program for the creation of a combat force of 70 groups and 22 specialized squadrons. In 1947 the President's Air Policy Commission, headed by Thomas K. Finletter, confirmed this program as the minimum level for national defense; but it was not until the Korean War completely changed the condition of U.S. national security that the Air Force received the funds it needed to build to 70-group strength.

The Navy aviation forces had 41,272 aircraft at the end of World War II. The Marine Corps had 3,390. The Army had a very small number of specialized types of aircraft, primarily for use in artillery spotting.

Today, it takes a relatively few aircraft to do the job done by many in World War II or Korea. The Air Force today has about 13,000 aircraft. The Navy, including the U.S. Marine Corps, has some 8,000. More than 1,000 of these belong to the U.S. Marine Corps. The Army has more than 10,000—including more than 1,000 fixed-wing aircraft.

Airpower strength is not, of course, measured by numbers of aircraft alone. Aircraft are only indicators. They represent large numbers of aircrews, maintenance experts, mechanics, electronics and communications specialists, training facilities, bases (including carriers at sea), specialized research, development, procurement and resupply, plus systems for constantly administering, updating and budgeting both equipment and personnel.

MAJOR COMMANDS AND SEPARATE OPERATING AGENCIES

Aerospace Defense Command (ADC)
Air Force Communications Service (AFCS)
Air Force Logistics Command (AFLC)
Air Force Systems Command (AFSC)
Air Training Command (ATC)
Air University (AU)
Alaskan Air Command (AAC)
Headquarters Command USAF (HQ COMD USAF)
Military Airlift Command (MAC)
Pacific Air Forces (PACAF)
Strategic Air Command (SAC)
Tactical Air Command (TAC)
United States Air Forces in Europe (USAFE)
United States Air Force Security Service (USAFSS)
United States Air Forces Southern Command (USAFSO)

Air Force Accounting and Finance Center (AFAFC)
Air Force Audit Agency (AFAA)
Air Force Data Automation Agency (AFDAA)
Air Force Inspection and Safety Center (AFISC)
Air Force Military Personnel Center (AFMPC)
Air Force Office of Special Investigations (AFOSI)
Air Reserve Personnel Center (ARPC)
Headquarters Air Force Reserve (AFRES)
United States Air Force Academy (USAFA)

AIR FORCE

(Continued from Page 2)

"providing the means for coordination of air defense among all Services."

These were capabilities that a dedicated group of air specialists within the Army had been building for 40 years. They had fought an uphill battle for an understanding of the importance of airpower and its employment under centralized control.

The new organization was set up with the idea that, to save money and be more efficient, each Service would stick primarily to its specialty. Its weapons, equipment, training programs and schools for its people, and its objectives and tactics in war were not to wastefully duplicate, nor overlap, the efforts of another Service. All three forces—land, sea, and air—would specialize in types of warfare in which they traditionally excelled. All would work together and complement each other as a team of specialists under unified control.

This was spelled out in 1948 by an agreement among the Service chiefs of staff after a series of meetings with Secretary of Defense Forrestal. The agreement, officially titled, "Functions of the Armed Forces and the Joint Chiefs of Staff," is commonly called the "Key West Agreement" or the "Functions Paper."

"Functions" is only another word for missions, tasks, and responsibilities. The Functions Paper contains the job descriptions of all the Services. These job descriptions have been reviewed and endorsed by each Service chief and by each Secretary of Defense from 1948 until today. (They are contained in JCS Pub 2, Unified Action Armed Forces.)

For the sake of good management and military effectiveness, the agreement gave each Service primary responsibility for certain jobs. It also listed secondary responsibilities, called collateral functions.

The Service with the primary responsibility was to do the major planning, selection of weapons, and general direction of the functions. The chief of that Service was to be the one who would present requirements and plans to the Joint Chiefs of Staff "for the employment of *all* forces to carry out the function."

Three secondary jobs were assigned to the Air Force:

- To interdict enemy seapower through air operations;
- To conduct antisubmarine warfare and to protect shipping; and
- To conduct aerial minelaying operations.

But to prevent any of the Services from making a secondary job into a primary job belonging to another Service, the agreements says that such an assignment "shall not be used as the basis for establishing additional force requirements." This means that the Air Force, for example, should not build up special forces for antisubmarine warfare, laying of sea mines, or interdiction of seapower. These, naturally, are primary responsibilities of the Navy. The Air Force must be ready only to "support and supplement" the Navy in carrying out that part of its mission.

The Army's secondary job is "to interdict enemy sea- and air-power and communications through operations on or from land."

The Navy and Marine Corps have four secondary jobs:

- To interdict enemy land- and airpower and communications through operation at sea;
- To conduct close air support for land operations;
- To furnish aerial photography for cartographic purposes; and
- To be prepared to participate in the overall air effort as directed by the Joint Chiefs of Staff.

All these secondary functions are, of course, primary functions of another Service:

Here are the Functions Paper's briefest descriptions of the overall job of each Service.

Army—"To seize, occupy, and defend land areas";

Navy and **Marine Corps**—"To gain and maintain general sea supremacy"; and

Air Force—"To gain and maintain general air supremacy."

After the primary aviation organization of the Army—the Air Force—was separated from the Army in 1947, the Army continued to be interested in developing aviation capabilities under its direct control. Over the years, beginning in 1951, a number of memorandums of

EARLY MILITARY AIRCRAFT. The only military aircraft and pilot (Lt. Benjamin D. Foulois—second from right) in 1910 at the air arm's hangar at Fort Sam Houston, Texas, where flying operations were moved from Maryland. Foulois became a major general and Chief of the Air Corps in 1931.

FIRST TEAM. The first Secretary of the Air Force, W. Stuart Symington, now the senior Senator from Missouri, discusses the organization of the Air Force with General Carl Spaatz, first Air Force Chief of Staff, at a press conference in 1947.

TODAY'S TEAM. Secretary of the Air Force Robert C. Seamans, Jr. and General John D. Ryan, Air Force Chief of Staff.

understanding have been worked out between the two Departments, relating primarily to mission requirements for close air support of ground forces and to the kinds of aircraft to be used by each Service. Although the Army developed a large aviation force during the Vietnam War—with more than 3,000 helicopters in Southeast Asia at one time—there are no plans to change the roles and missions, according to the Chairman of the Joint Chiefs of Staff, Adm. Thomas H. Moorer.

Today's Air Force operations involve both air and space—aerospace—but the overall job has not changed basically in 25 years. In the 1970s, the Air Force supplies the Nation's primary capabilities to:

- Maintain general aerospace supremacy and thus support our policy of deterring every intensity of conflict;
- Defend the United States against aerospace attack;
- Control vital aerospace areas;
- Conduct strategic and tactical aerospace warfare against selected enemy targets, if deterrence fails;
- Furnish tactical air support for the ground forces;
- Provide combat airlift mobility for Department of Defense forces, including logistical air support and aerial resupply of global operations of the Department of Defense;
- Conduct combat support operations such as strategic and tactical reconnaissance and meteorological study;
- Meet the major space requirements of the Department of Defense;
- Provide research, development, test and engineering of satellites, boosters, space probes, and associated systems necessary to support specific National Aeronautics and Space Administration (NASA) projects and programs arising under basic agreements between the Department of Defense and NASA; and
- Conduct the research, development, production and testing required for the acquisition of aerospace systems.

The Air Force provides long-range airlift for Army spearhead units and for Air Force tactical deployments into battle or problem areas. This operation is followed with continuing large-scale resupply airlifts to sustain and augment the combat units. It also furnishes aeromedical evacuation, support and resupply of airborne operations, aerial photography, and tactical reconnaissance.

In its other vital global peacetime and combat missions, the Air Force also provides: communications systems which form a major component of the Defense Communications System and the National Communications System; rescue services for military or civilian personnel in disasters and emergencies; search and recovery service to astronauts of the national space program; long- and short-range weather forecasts; airborne weather reconnaissance and atmospheric sampling; aerial electronic surveys leading to constant upgrading of maps and charts for all Services; video-tape and photographic documentation of Service activities; instrumentation for missile/space launches and tests conducted by the Atomic Energy Commission (AEC) and NASA; and special airlift worldwide for the President of the United States, cabinet members and other high-ranking dignitaries of the United States and foreign governments.

The Air Force provides the primary offensive and defensive air forces for United States military forces in Europe and the Pacific—U.S. Air Forces in Europe (USAFE) and the Pacific Air Forces (PACAF)—as well as global airlift for all the U.S. Armed Forces, through the Military Airlift Command (MAC)—plus the Strategic Air Command (SAC) and the prime air components of unified commands, such as the Continental Air Defense Command (CONAD) and the U.S. Readiness Command (USREDCOM).

In terms of weapon systems, the Air Force has 1,054 Minuteman and Titan II intercontinental ballistic missiles (ICBMs); 463 strategic bombers, and 9 fighter interceptor squadrons in its strategic defensive forces. It has 21 Air Force wings in its tactical air forces. In its airlift forces it has 4 squadrons of C-5 aircraft, 13 squadrons of C-141s and 17 squadrons of C-130s.

It takes about 1.4 million people to do all this. They include 730,000 military personnel on active duty (approximately 121,000 officers, 604,000 airmen and 4,000 cadets), 261,000 civilian employees and 391,000 members of the Air National Guard and Air Force Reserve forces.

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U.S. AIR FORCE: Aerospace Power for Peace

Heaviest Burden on SAC

The Beginnings of Strategic Airpower

In a review of Air Force history some ten years ago, the Commander of Air University, Lieutenant General Walter E. Todd, wrote:

The U.S. Air Force that was maintained in the years between World War II and the Korean War was deeply rooted in the technological and doctrinal environment created during World War II. Dominating all other considerations in the minds of air leaders—especially General of the Air Force H. H. Arnold and General Carl Spaatz, who headed the Air Force in the early postwar years—was the belief that the experience of the war had validated their confidence in strategic bombardment as the prime mission of airpower. To cap their convictions, the advent of the atomic bomb at the very end of the conflict had added a magnitude of authority to strategic bombardment previously undreamed of by its prophets and practitioners. It was, therefore, foreordained that the Air Force of the future would be built primarily around the strategic air arm, to which the tactical forces were required to defer.

General Spaatz, General Arnold's successor as Army Air Force (AAF) Commander, ordered, in February 1946, effective March 21, 1946, a reorganization of combat forces based on concepts derived from World War II experience. Three new functional commands—Strategic Air Command, Tactical Air Command, and Air Defense Command—replaced the geographic air forces under which AAF combat strength in the United States had formerly been grouped. The remainder of the AAF structure remained the same, with five supporting commands in the United States and five overseas commands, of which the United States Air Forces in Europe and the Far East Air Forces were the largest and most important.

The heaviest burden fell on the Strategic Air Command—by design as well as by necessity. Strategic airpower, the Air Force held, provided the surest and most effective way for the United States to discharge its military responsibilities in the world community—responsibilities that would inevitably grow rather than decrease after the initial headlong withdrawal from overseas areas in 1945-46. In the atomic bomb, the United States possessed the most powerful and decisive weapon in existence, and SAC alone had the ability to deliver the bomb against distant targets. SAC would constitute, therefore, a powerful striking force-in-being that could overwhelm and destroy any potential adversary of the United States. Further, it seemed to many USAF leaders, its existence would serve to dissuade, even deter, a potential aggressor from attacking the United States.

General of the Air Force

Profile of a Pioneer

It's not unlikely that any account you may read about the Air Force—from its very early days until shortly before it was made a separate Department in 1947—will include something about Henry H. "Hap" Arnold.

He learned to fly in 1911 at the school operated by the Wright brothers. Along with Capt. Charles DeF. Chandler and 2d Lt. Thomas DeW. Milling, he was the first person to be awarded the Military Aviator rating—on July 5, 1912. For the next 30 years, he fought for development of military aviation. He defended the ideas of Brigadier General Billy Mitchell, the Air Service officer who took his battle for greater recognition of airpower to the public and resigned after a general court-martial found him guilty of insubordination. Arnold twice won the Mackay Trophy for pioneering flights.

He was appointed Chief of Air Corps in 1938 and continued to head the Army Air Forces while it grew from 22,000 officers and men with 3,900 planes to nearly 2,500,000 members with more than 79,000 aircraft in World War II. He was appointed a General of the Army (wearing five stars) in 1944. General Arnold retired in 1946. In recognition of his monumental service to the country he was appointed the first (and only) General of the Air Force by the U.S. Congress in 1949.

HENRY H. "HAP" ARNOLD
General of the Air Force

His leadership and organizational and managerial ability had helped fashion an Air Force that was clearly recognized as having an independent stature. He made strategic bombing a major force in warfare and pushed through the development of the B-29 bomber. His foresight had helped form many innovations for the Air Force, later adopted by other organizations. He initiated or embraced new approaches, such as setting up, in 1946, the USAF Scientific Advisory Board, made up of distinguished scientists, and establishing the Rand Corporation, the first of such groups to do specific research tasks and advise on development programs. He was a major force in encouraging new management techniques in the Government to achieve greater efficiency, economy, and effectiveness.

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